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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/500,391	02/08/2000	Wei-Ping Sun	CISCO-1858	2543

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David B Ritchie
D'Alessandra & Ritchie
P O Box 640640
San Jose, CA 95164

EXAMINER

NGUYEN, STEVEN H D

ART UNIT PAPER NUMBER

2665

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

OK

Office Action Summary	Application No.	Applicant(s)	
	09/500,391	SUN ET AL.	
	Examiner	Art Unit	
	Steven HD Nguyen	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-8,10-17,37 and 39-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-8,10-17,37 and 39-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-4, 5-8, 10-17, 37, 39-48 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. As claims 1, 16, 37, 41, 43, 46, the recitation “ the request packet not identified router card. In the specification, page 10, lines 1-6, the request packet includes the port address of the router card” which is used to identify the router card. Also, see claim 11, 12, 44, 47.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

Art Unit: 2665

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-4, 6-8, 10-17, 37 and 39-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen (US Pat. 6772204) in view of K. R. Sollings, (TFTP Protocol (Revision 2) (hereinafter RFC 783), and Bailey et al. (US 6,185,623).

Regarding claims 1, 16, 37, 41, 43 and 46, Hansen discloses a method and system for downloading configuration file to a network device (Fig 1b, Ref 26) which couples to the network management server. A network configuration tool "system controller" (Fig 1b, Ref 10, 28, 30 and 32) for receiving a request packet "Bootp packets" via network "bus" (col. 16, lines 13-26, Fig 1b, 29b) wherein the bootp request packet contains a destination address of a network device that contain configuration tool "port address" and address of the network device that send a request and code "file type", "the request packet not identified the network device and not includes a file name", the network configuration tool examines the bootp packet based on the destination address and code and retrieving the file name for transmitting to the network device via a reply message, then the network device send a new request for downloading the file by using a trivial file transfer protocol (TFTP). The TFTP server locates and opens this file based on the information provided in the TFTP request, then downloads this boot file to the network device based on the protocol that uses to transmit the packet "packet size" (See col. 16, lines 27-38 and col. 17, lines 8-38). However, Hansen fails to discloses file size, the ack, duplicating ack, opcode, block number, checksum of packet, active and inactive router. In the same field of

Art Unit: 2665

endeavor, RFC 783 discloses a format for TFTP packets that demonstrates a TFTP request packet containing a source port address and destination address in the request packet and ack packet and transmitting or retransmitting the packets contains the requested file between the devices (Pages 8-13). However, Hansen and RFC 783 fails to disclose a file size, master “active”, slave “inactive” and determining the memory for storing the file. In the same field of endeavor, Bailey discloses a system for booting a client computer from a server that uses the TFTP. In this system the client may include a transfer size request in the TFTP request packet, in which case the server responds to the request packet with the transfer size (col. 4, line 58 - col. 5, line 36). The purpose of requesting the transfer size is to determine the amount of memory needed to store a file (col. 11, lines 57-67). This constitutes setting up a buffer size of at least as large as the file size. Bailey also discloses a subnet group of clients wherein one client is the master client, representing the active router card of the present invention, while any other clients in the group represent an inactive router cards (col. 6, lines 25-40 and col. 7, lines 35-56).

Since, the references suggest the use TFTP for transferring the packet between the devices. Therefore, it would have been obvious to one of ordinary skill in the art to apply a method of send the file size and file names to the MC so that the network device would be able to set aside enough memory to store the image file. One of ordinary skill in the art would have been motivated to have a group of clients containing a master client in case the group of clients all needed to download the same image file in order to use a common operating system as disclosed by Bailey’s system and method into RFC 783 which teaches a method and system for transmitting a file between the device using TFTP into a method and system of Hansen. The

Art Unit: 2665

motivation would have been to prevent error during the configuration of the network device and reduce the cost of device.

Regarding claims 2 and 17, Hansen discloses using trivial file transfer protocol (TFTP) to make the request for the image file (Col. 17, lines 15-30). Hansen fails to expressly disclose forming a data packet from the file, wherein the data packet is a fixed size and includes a system frame header and a data packet protocol header. RFC 783 discloses that TFTP uses packets of fixed length blocks (page 3). Figure 3-1; Order of Headers (page 5) shows a header structure including Local Medium and Internet headers, which collectively represent the system frame header of the present invention, and Datagram and TFTP headers, which represent the data packet protocol header of the present invention. TFTP also specifies that each data packet must be acknowledged by an acknowledgement packet before the next packet can be sent (page 3). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the fixed size TFTP packet format with the appropriate headers in sending data packets formed from the requested file. One of ordinary skill in the art would have been motivated to do this because this protocol is small and easy to implement for the purpose of transferring files.

Regarding claim 3, Hansen fails to disclose sending a last packet less than the fixed size. RFC 783 discloses that a data packet of less than 512 bytes, which is the fixed size, signals the termination of a transfer (page 3). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use this last packet smaller than 512 bytes at the end of the file transfer as disclosed by RFC 783 into Hansen's system. One of ordinary skill in the art would have been motivated to do this to reduce the processing time at the receiving node.

Regarding claim 4, Hansen fails to disclose retransmitting a data packet to the client if

Art Unit: 2665

the server receives a duplicate acknowledgment packet for the previous packet. RFC 783 discloses that a lost data packet causes a timeout for the intended recipient, in which case the intended recipient retransmits its last packet (page 3). Thus, if the intended recipient is the client and a timeout condition occurs, the client would then send an acknowledgement packet for the previously received data packet, i.e. a duplicate acknowledgment. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to retransmit a data packet formed from the image file in response to receiving a duplicate acknowledgement packet. One of ordinary skill in the art would have been motivated to do this in order to signal the server that a data packet has not been received and needs to be retransmitted and reducing the congestion at the network.

Regarding claims 6, 40, 45 and 48, Hansen does not expressly disclose a system frame header and a data packet protocol header consisting essentially of an operation code, a block number, a file type and a checksum. RFC 783 discloses a header structure in Figure 3-1; Order of Headers (page 5) of Local Medium and Internet headers, which represent the system frame header of the present invention, and the Datagram and TFTP headers represent the data packet protocol header of the present invention. The format for a data packet includes an opcode and a block # (see Figure 5-2, page 10). Additionally, TFTP specifies that it may be implemented on top of the Internet User Datagram Protocol (UDP or Datagram) (page 2). The User Datagram Header includes a checksum (page 15). Thus, this checksum would be included in the data packet protocol header. RFC 783 also specifies that a request (RRQ) packet includes a filename in the header. It would have been obvious to a person of ordinary skill in the art to use a system frame header and the data packet protocol header format of a TFTP data packet in sending data

Art Unit: 2665

packets and include opcode, block number, check sum, in the header of the data packet as disclosed by RFC 783 into the system of Hansen.

Regarding claim 7, Hansen fails to disclose that the acknowledgement packet consists essentially of a system frame header, and acknowledgement code, and a block number. RFC 783 discloses a format for an ACK packet that contains an opcode, which represents the acknowledgement code, and block # (see Figure 5-3, page 10). The system frame header is shown in Figure 3-1 (page 5). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use this format of an acknowledgement packet in acknowledging the received file from the server as disclosed by RFC 783 into system of Hansen. One of ordinary skill in the art would have been motivated to do this so that the server would know which packets have been sent successfully and which ones need to be retransmitted.

Regarding claims 8 and 10, Hansen discloses a media access control (MAC) address of the MC that is 12 characters long in hexadecimal format, or 6 bytes long if represented in binary (col. 16, line 13-26) and destination also has a MAC address. Hansen fails to disclose a system frame header that specifies the addresses of the router card and system controller. RFC 783 discloses a system frame header composed of Local Medium and Internet headers (Figure 3-1, page 5). At the time the invention was made, it would have been obvious to send includes the addresses in the packet as disclosed RFC 783 into Hansen's system. One of ordinaly skill in the art would have been motivated to do this so that the packet would be routed to the correction destination NIC and that the receiving NIC was sure that this packet was coming from the server.

Regarding claims 11, 12, 39, 42, 44 and 47, Hansen discloses a media access control (MAC) address of the MC that is 12 characters long in hexadecimal format, or 6 bytes long if

Art Unit: 2665

represented in binary (col. 16, line 13-26) and destination also has a MAC address. Hansen fails to disclose a system frame header that specifies the addresses of the router card and system controller, a request code, and a file type in the request packet. RFC 783 discloses a system frame header composed of Local Medium and Internet headers (Figure 3-1, page 5). RFC 783 also discloses a request packet format that includes an opcode, which is the request code of the present invention, and a filename, which represents the file type of the present invention (see Figure 5-1, page 8). At the time the invention was made, it would have been obvious to apply addresses frame header, a request code as disclosed by RFC 783 into Hansen's system. One of ordinary skill in the art would have been motivated to do this so that the packet would be routed to the correction destination MC and that the receiving MC was sure that this packet was coming from the server.

Regarding claims 13-15, Hansen discloses power up a network device (Col. 16, lines 13-26).

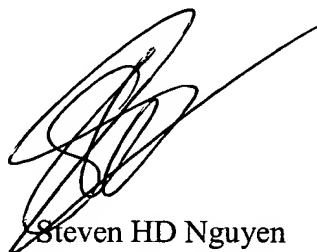
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven HD Nguyen whose telephone number is (571) 272-3159. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2665

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to be 'SHN', with a long horizontal stroke extending to the right.

Steven HD Nguyen
Primary Examiner
Art Unit 2665
1/12/05